

**SECRET**

Chief, Engineering Staff, OC

30 JUN 1967

Chief, Real Estate & Construction Division, OL

Review of Drawing for Modification of Power Plant,  
[REDACTED]

25X1A

1. We have reviewed the design drawing for the modification of the Power Plant at the [REDACTED]. It should be understood that this is not a complete review because:

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a. The drawings do not appear to be complete as there are not many details.

b. The switchgear and diesel electric sets are Government-furnished, and were procured before the design started and are, therefore, not a result of the design and their limitations were taken into consideration.

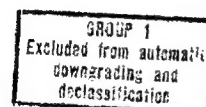
2. The following comments and suggestions are offered for your consideration. These are referenced to the sheet numbers.

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a. Door to 175 KW no-break unit should be in line with the unit.

b. Show a section through the trench under the switchboard.

c. New mufflers are GFM, contractor-installed.



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- a. Section 2B - 21: Show detail of channel in floor for securing and leveling switchgear. Show method of supporting switchgear over trench.
- b. Foundation plan Section 1A - S1: Relocate connection trench for 175 KW No-Break to other side of unit.
- c. Section 2F - S1: 1/4" plate trench cover will not develop design floor load (150 PSI) on 2' spans.

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- a. Note 5: Why are pneumatic tools prohibited in the demolition work?

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- a. Section 3 - M1 and 4 - M1: Show flexible connections on fuel oil lines. No supports shown on exhaust pipes.
- b. Section 4 - M1: Provide supports at two points on mufflers, instead of one as shown.

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- a. Section 3 - E1: Power Distribution plan - Power and control cables terminated at J. Box #5 on the exterior of the building should be in a manhole or a handhole. Power cables and control wires in separate ducts. A duct bank should be run between the power building and the receiver building and spare capacity provided.
- b. Section 4A - 1: Type Cable Trench - What is the reason for installing ground rods in trench? Ground rods should be cast in floor with 6" extending for visible connections. If needed a ground bus can be installed where needed. Sleeves through the floor will create a water problem.

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c. Section 4B-E1: Cable Rack Detail - Why not cast cable rack in place in trench walls?

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a. Section 23 - E - 2: Why is ground rod installed in handhole?

b. Section 3 - E - 2: Floodlight Detail - Connection should be by plug and cord to weatherproof outlet.

c. Section 1A - E2, 1B - E2: There are four sets of batteries and three battery chargers. Why not consolidate and have one set of batteries and one charger to reduce costs and maintenance?

d. Section 1B - E2: Why are junction boxes located on the exterior of building? Why not run cables direct to board? All wire and cables should leave the building by one route, preferably a duct bank via handholes and/or manholes.

e. Section 1B-E2: Twelve 350 MCM Cables from the 120/208 V transformer bank to the switchboard appear to be an excessive use of copper. Why not use bus-duct?

f. Section 1B - E2: Distance from end of switchboard to wall should be a minimum of 36 inches.

g. Section 1B - E2: Handhole - This should be a manhole adjacent to the building with a trench extending into manhole from the switchboard. Provide firestop in the trench.

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h. Note 2: What are Government furnished sill channels for?

i. Section 1B - E2: On Generator #2: Why not extend trench to generator terminals and connect directly or install conduit from trench to generator terminals?

j. Section 1B - E2: Handhole - Power and control cables should not be run in same handhole.

k. Section 5 - E2: Resistor Mounting Details - Show number of conduits required.

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a. Note 5: This is not clear and should be checked.

b. There appears to be no breaker coordination study.

c. Note 1: Floor trenches must be constructed before switchboard and control panels are installed.

3. It is felt that the above changes should be effected in order that this project may provide the reliability required for the Receiver facility.

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Att

**Distribution:**

Orig. & 1 - Addressee

1 - OL/RECD Project

1 - OL/RECD/D&CB/UES Chrono

OL/RECD/D&CB/UES [redacted] :cc

(28 June 1967)

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